tive view of a state in which the portable telephone is closed, and the perspective view is seen from a first casing side where a second display screen is provided.

In the portable telephone, two casings (a first casing **8000***a* and a second casing **8000***b*) are connected to each other by a hinge **8101** and can be rotated with the hinge **8101** as a center.

A first display screen **8001***a*, a second display screen **8001***b*, operation buttons **8002***b*, speakers **8003***a* and **8003***b*, an antenna **8004**, a camera lens **8005**, and the like are provided in the first casing **8000***a*.

On the other hand, the second casing **8000***b* has operation buttons **8002***a*, a microphone **8102**, and the like.

When the portable telephone is open, the first display screen **8001***a* is employed as a main display screen. The screen operation is performed by using the operation buttons **8002***a*. When the portable telephone is closed, the second screen **8001***b* is employed as a main display screen. In this case, operation of display information is performed by the operation buttons **8002***b*.

FIG. **9**C is a cross-sectional view in which the portable telephone of FIG. **9**A is seen from the side. A display controller **8008** connected to a display portion is provided inside the first casing **8000***a*, and controls display content. A battery **8010** and a main body driving module **8009** are formed inside the second casing **8000***b* and the display portion, the display controller **8008**, the main body driving module **8009**, and the like are driven by using electric power generated in the battery **8010**.

FIG. **9**D is a view in which a region A of FIG. **9**C is magnified. The first display screen **8001***a* and the second display screen **8001***b* each display images emitted from the display portion **8013** (including a light-emitting element formed between a substrate **8011** and an opposite substrate **8012**).

The light-emitting device shown in Embodiment Modes 1 to 5 and Embodiments 1 and 2 is applied to the display portion **8013** in this embodiment. Thus, it is possible to display images in two display screens (the first display screen **8001***a* and the second display screen **8001***b*) of one light-emitting device and to display information suitable for the content of each display screen. For example, the light-emitting element that can display in the first display portion is active matrix driving type and the light-emitting element that can display in the second display portion is passive matrix driving type or a light-emitting element for area color, thereby displaying high-definition images or moving images in the first display portion and simple information such as time or a state of incoming mails in the second display portion.

Further, two display devices are conventionally required to display images in the first screen and the second screen. However, because it is possible to display in different display screens in one display device in this embodiment, the volume and weight of the portable telephone can be reduced and miniaturization of devices is possible.

In relationship of space, the display portion having the second display screen incorporates only a display screen occupying a small display area conventionally. However, according to the present invention, since the second display screen **8001***b* having the same display size as the first display screen **8001***a* can be provided, higher added value can be realized.

Embodiment 4

A cash resister is shown in this embodiment as an example of electronic devices applying Embodiment Modes 1 to 5 and Embodiments 1 and 2.

FIG. **10** is a cross-sectional view of a cash register according to the present invention. In the cash register, a first casing **9000***a* and a second casing **9000***b* are connected by a hinge **9001**, and the second casing **9000***b* can be rotated.

An operation button **9003** and an outlet port for receipt **9004** are provided in the first casing **9000***a*. A first display portion **9002***a* and a second display portion **9002***b* are provided for opposite sides of the second casing **9000***b*. The first display portion **9002***a* faces a cashier **9005** and the second display portion **9002***b* faces a purchaser **9006**.

When a light-emitting device of the present invention is applied to the first display portion **9002***a* and the second display portion **9002***b*, two display screens can be provided in one display device. As a result, the thickness and weight of the display portion can be reduced, and the device can be more thinned. A calculated value for goods is displayed in the first display portion and advertisements or TV images are displayed in the second display portion. Thus, the purchaser can watch the advertisements, the TV images, or the like and obtain advertisement information about goods during the idle time, while the cashier is calculating values of goods.

According to the present invention, it is possible to display in both front and back sides and to independently display images on the both sides. Further, the present invention provides a light-emitting device having a higher aperture ratio, which is obtained by adding the aperture ratios of the both sides.

Since an electronic device using a display device of the present invention can independently display images on the front and back sides, the same image can be seen on the both display screens without sense of discomfort. Further, it is also possible to see different images on the both sides. Moreover, higher added-value such as weight saving and thinning of electronic devices having plural display portions can be realized.

This application is based on Japanese Patent Application serial no. 2003-187152 filed in Japan Patent Office on 30, Jun., 2003, the contents of which are hereby incorporated by reference.

Although the present invention has been fully described by way of Embodiment Modes and Embodiments with reference to the accompanying drawings, it is to be understood that various changes and modifications will be apparent to those skilled in the art. Therefore, unless otherwise such changes and modifications depart from the scope of the present invention hereinafter defined, they should be constructed as being included therein.

What is claimed is:

1. A light-emitting device comprising:

pixels arranged over a substrate in matrix form, each of said pixels comprising;

a first light-emitting element over a substrate;

a semiconductor element of an active first driving matrix electrically connected to a first electrode of the first light-emitting element;

a second light-emitting element over the first light-emitting element, wherein a row electrode or a column electrode of the second light-emitting element is electrically connected to a second driving matrix different from the active first driving matrix; and

an insulating film formed over the semiconduductor element and the first light-emitting element, and between the first light-emitting element and the second light-emitting element, wherein the insulating film is configured to electrically isolate the semiconductor of the active first driving matrix from the row or column elec-